

Index

&

Lists

(1)

Eggs of Fringilla dorsalis, 6 m. w. Mormon Lake May 30, 1887.

$15 \times 21$ ,  $15 \times 20.5$ ,  $14.7 \times 21.5$ ;  $15.4 \times 21$ . Nest concealed in thick bunch of "wire grass", <sup>near</sup> bottom of prairie in pine forest. Female flew from nest. 3 eggs contained embryos ready to hatch. They were sparsely marked with and had wreath around greatest of the same color. Ground color

A fourth egg was added and differed from the others in having the circle of spots around the small end. It & nest preserved.

Egg of Fulica americana. 5 sets (6, 6, 6, 7, 10) aggregating 35 eggs taken at the Mormon Lake May 28<sup>th</sup>. Floating nests built of tufts among cat-tails & lillies. One nest was completely roofed over by flags broken down by wind. Another Coot's egg containing young ready to hatch measures  $5.2 \times 3.6$

Scoteleotris cyanocephalus. Two sets of 6 each and one of

5 in May 29 at Mormon Lake. Two nests.

One set of 6 & one of 5 on May 31 at Mormon Lake

Xanthocephalus xanthocephalus. Three sets & nests at Mormon Lake May 29, 3, 4, 1 egg, respectively.

Fringilla dorsalis. One set & nest 4 - 3 = 1 May 30 Mormon

7.16 - W.P. 9.14

- 4.2 d. + 9.5 5 - W.P. 11.31

Common ~~Coot~~ - W.P. ~~W.C.~~ Boundary survey

Common 8.20 - W.C. 8.31

2 Notes of a Collecting Trip to the  
San Francisco Mountains, Arizona.  
May 20 to June 20, 1887.

See Index at end of book, which is a  
list of the animals seen.

Itinerary of trip on page 9.

(3)

(4)

To Capt. Leonard Haze U.S.A.

On Arizona's highest peak  
 Dame Nature's treasures I did seek  
 While resting on a log of spruce  
 I spied this Orchis lying loose  
 Where cropped grass dropped on Mountain Sheep  
 Or wandering Deer from canons deep.  
 Accept this flower as a token  
 That my esteem shall never be broken  
 Its name's Calypso borealis.  
 It grows beside the Corydalis  
 In old New York it was the fairest  
 In Arizona ~~was~~<sup>is</sup> the rarest  
 Orchis.

1887

Eggs of Urubitinga anthracina. Beaver Creek, 25 May 20, 1887.  
Two eggs measured; 47 X 59; 47 X 58.

Eggs of Urubitinga anthracina. - Cottonwoods on Tonto Creek, Tonto Basin, Central Arizona. May 18, 1888. Two eggs, measuring 50 X 62; 58 X 60 mm.

Urinator imber. - A spoon was flying about Stonemans Lake during our stay there (May 21 to 25), and also a Cormorant or two.

Dryobates scalaris. - 11♂ ad., 8♀ ad., 1♂ juv., 1 - - . Total 21 specimens.

" villosum Harrisii. - 4♂ ad., 1♂ - , 4♀ ad. " 9 "

Aphyrapicus v. nuchalis. - 3♂ ad., 5♂ juv. " 8 "

" thyroideus. - 2♂ ad., 1♀ ad. " 3 "

Melanerpes formicivorus laurisi. - 9♂ ad., 8♀ ad., 1 - ad. Total 18 species.

" torquatus. - 14♂ ad., 10♀ ad., 2 - ad. 1 - , 4♂ juv., 1♀ juv., 1♂ juv. " 33 "

Calaptes Cafer. - 11♂ ad., 9♀ ad., 1♀ juv. Total 21 specimens.

Phalaenoptilus nuttalli. - 3♀ ad., 1♂ juv. " 4 "

Chlorodiles texensis. - 6♂ ad., 1♀ ad., 1♂ juv., 1♀ juv. " 9 "

Picus jucunda melanotis. - 1♂ ad., 3♂ ad. " 10 "

Picoides alexandri. - 12♂ ad., 2♀ ad., 1 - - , etc. Sante Sophia, complete.

Ficedula costata. - 2♂ ad., 1♀ ad., 1♂ juv. Total 4 specimens.

" rufus. - 3♀ ad., many females and young.

Note. - There are 32 unclassified Hummers in my collection.  
Amazilia verticillata. - 9♂ ad., 5♀ ad., 2♂ juv., 1♀ juv. Total 18 species.

" vociferans. - 7♂ ad., 3♀ ad., 1♂ juv., 1♀ juv. " 12 "

Myioarchus Mexicanus magister. - 2♂ ad., 3♀ ad., 1♀ juv. " 6 "

" cinereiceps. - 8♂ ad., 3♀ ad., 2 - ad., 1♀ juv. " 14 "

" myiochroa sayi. - 9♂ ad., 4♀ ad., 2 - ad., 1 - juv. " 16 "

" nigricans. - 2♂ ad., 5♀ ad., 1 - ad., 2♂ juv. " 10 "

Centropus borealis. - 1♂ ad., 1♀ ad., 1 - ad. " 3 "

" richardsoni. - 3♂ ad., 2♀ ad., 1♂ juv., 1♀ juv. " 7 "

Empidonax. - 15 unclassified specimens representing 4 species.

Empidonax fusillus. - 2♀ ad.

" hammondi. - 3♂ ad.

" obscurus. - 1♂ ad., 1♀ ad.

Pipreola halimoides mexicanus. - 21♂ ad., 2♂ (ad.?), 8♀ ad., 1 - - , 3♂ juv. Total 35 specimens.

Otocoris alpestris or var. - 24♂ ad., 5♀ ad., 1♂ juv., 1♀ juv.

Cyanocitta stelleri macrolopha. - 7♂ ad., 6♀ ad.

Phainopepla woodhousei. - 7♂ ad., 11♀ ad., 1♂ juv.

" seiberti arizonae. - 3♂ ad., 2♀ ad., 2♂ juv., 1♀ juv.

Cornus corax sinuatus. - 1♂ ad., 1♂ juv.

" cryptoleucus. - 1♂ ad., 3♀ ad.

" americanus. - 1 - ad.

Picicorvus columbianus. - 1♂ ad.

- Cypselos*? *halus cyanoocephalus*. - 2♂ ad, 7♀ ad.  
*Molothrus ater obscurus*. - 9♂ ad.  
*Xanthocephalus xanthocephalus*. - 13♂ ad, 3♀ ad, 2♂ juv.  
*Aegithina phoenicea*. - 20♂ ad, 20♀ ad, 1♂ juv, 1♂ (ad.?) 2 - -?  
*Sturnella magna neglecta*. - 11♂ ad, 4♀ ad, 1 - juv.  
*Dolichonyx oryzivorus*. - 5♂ ad, 4♀ ad, 1♂ juv, 1♀ juv.  
 " *Pueellula tenuirostris nelsoni*. - 14♂ ad, 3♀ ad, 3♂ juv, 1♀ juv.  
 " *Bullocki*. - 14♂ ad, 5♀ ad, 2♂ juv.  
*Scoleophaagus cyanoocephalus*. - 5♂ ad, 7♀ ad (one imm.).

My car No. was 5,395.

May 20<sup>th</sup>, 1887 Verde Beavers.

5396. Bubo virginianus ♂ juv. Beaver Cr. May 20, 1887  
Just able to fly. Still with parents, <sup>Journal of Animal Psychology</sup> <sup>1240</sup> ~~falling from tree~~  
5397. Murbitinga anthracina. ♂ ad. 526; 387; 3.2 cul & clu 36  
cen, 15; cul. 26; gaf. 40; <sup>tibia</sup> 192; tars ~~18~~; ntc, 0.8; cl 21  
htc, 46; el, 25; inner cl 23; outer cl 17. Frides hazel.  
5398. Vireo gilvus. ♀ ad. 133; 222; 70; 5.4; cul, 10.5; ntc 7  
gaf, 16; tars ~~18~~, 18; ntc, 14.5; cl, 4.3. Hutchinson's old place  
on Beaver Creek

May 21<sup>st</sup> 1887

~~Yester~~ Beaver Creek at the Colville Pass to  
Stoneman's Lake, 16 miles "

- 5349 *Ardea virrescens* ♂ ad. Beaver Cr. at Schoolhouse  
 Length incl. claws, 590; tarsus, 72<sup>0</sup>; cul., 75; bill, 57; wing, 75;  
 middle toe, 16; outer toe, 18; tibia, 72; bare portion of  
 tarsus, 54; ante, 59; cl., 9; tte, 35; wt., 123.  
 5400 *Cardinalis cardinalis superbus*. ♂ ad. 21<sup>0</sup>; 330; 107; 123;  
 cul., 22; galv., 23; height, 17; width, 15; tars., 28; width, 26;  
 cl., 8; tte, 19; cl., 8; Bill plain red, with slightly  
 dusky tip to maxilla. Legs, feet & claws brown.

- No 581 Spermophilus grammurus Kad. Total ls 540 Head and body, 290 Tail to end vert, 190; to end hours 1265 width, 135 Ears, height above crown, 20 ; width 27 width, 25 ; bat. eyes, 35 ; longest whiskers 53; Chest width, 165 Tip of nose to front teeth 9. Height 29 width pupil 35 Ear + angle mouth + whiskers 57 depth of ear 84 recumbent 68? hind limb 27 = 420

- Long knife coracoid 117 <sup>mams</sup> 88 ~~45~~  
<sup>mams</sup> width ~~14~~ 14 , longest cl. mams 9 Hand limb from  
great trochanter, 154 ; knee, 112 , f.s. 62  
width pes, 11 ; longest cl. pes 8" . In its cheek  
pouch was a bulb which the Mexicans call by a name  
which signifies artichoke in English. Shot on the  
lowest branch of a dead cedar near Rattlesnake  
Tanks.

- 5401 Urubitinga anthracina ♀ ad. Beaver Creek at 7215.  
 Campbell's ranch. Irides hazel, 560; tarsus 105; 248  
 cul. + cere, 39; cere, 15; cul., 27; gape, 42; lobes 111; tars. 91;  
 mtc, 62; il., 105; cl., 47; cl., 25; maxilla, 220; t. 171.  
 5402 Sialia arctica ♀ ad. Parent set of 5 eggs. 180; 235; 116; 7.  
 cul., 14; max., 9.4; gape, 21; tars., 23.5; abt., 21; d. 5  
 hts 14; cl., 6.  
 5403 Dendroica graciae, ad 129; 208; 69; 58. 10;  
 mtc, 7.4; gape, 14; tars., 16; mtc, 15; cl. 7.5.  
 5404 Dendroica graciae. ad 135; 213; 71.5. 11.  
 mtc, 8.2; cul., 14; 23; tars 16.5; mtc. 14.  
 No 2  
~~5320~~  
 Tarsus long. 124. Tarsus, 1.4. The upper claws are 1.5 times  
Lepus texianus: ♀ ad. Total l. tail + neck + head + legs +  
 ears above crown, 17.; width, 1.2; ear width, 16.5.  
 Tip of nose to front teeth, 11.; eye, 5.; centre pupil 7.  
 ear, 9.5; nostril, 1.5; tip of ear, 2.; occip. 720  
 end bird leg. Cleast first, 33. Longest whisker 11.  
 Between eyes, 4. Fore limb, carpal, 28.; olec., 15.;  
 manus 30.; longest cl. manus, 8.5. Hind limb 32.  
 tarsus, 22.; toes, 15.; longest cl. toes, 12.

- Shot at Wehren's ranch 8000 feet. Lot of the birds  
5405 Trochilus melanocephalus <sup>dozens</sup> ad. 323; 372; 120; 75; cul, 26;  
gape, 32; tars, 21; inter, tars + cul. 19; ad, 1; similar to 48; 17;  
cl, 9; hind toe + cl, 21; cl, 9. Shot May 23, 1912.

- 5406 ♀ Pila desipes fornicatus Lacord. Sloaneanae. Total  
9. m. 23; 2d 188; 241; 457; 145; 87; c. 6. 28;  
grise, 30. Tarsus 23; ante, 25; cl. 9.

May 20. - I de it Schoolhouse, 1300 m. & 14 miles.

May 21. - Rode to Stoenman's Lake, 24 miles.

May 22. - In camp at Stoenman's Lake. Rode to the summit of Shell Ranch, 10 miles, to examine body of murdered man for Coroner and Sheriff.

May 23. In camp at Stoenman's Lake. Rode out to Shell Ranch, 10 miles, to photograph body of murdered man.

May 24. In camp at Stoenman's Lake.

May 25. Rode to McIrenas Ranch 10 miles.

May 26. In camp at " "

May 27. " " " "

May 28. Rode to Mormon Lake.

May 29. In camp at Mormon Lake.

May 30. " " " " "

May 31. Rode 14 miles to Clark's Ranch.

June 1<sup>st</sup>. Rode 12 " " Flagstaff.

June 2<sup>nd</sup>. " 3 " " Spring W. of Flagstaff.

~~June 3<sup>rd</sup>.~~ " 14 " " " 3 m. N. of Hart's Ranch.

June 8<sup>th</sup>. " 15 " " Camp at Big Spring E. side Mt.

June 15<sup>th</sup>. " 15 " " " " Spring on W. side Mt.

June 17<sup>th</sup>. " 17 " " Flagstaff.

June 18<sup>th</sup>. " 22 " " Muns's ranch

June 19<sup>th</sup>. " 15 " " Rattlesnake Paul's

June 20<sup>th</sup>. " 25 " " Fort Verde, Arizona

Rode 294 miles besides when hunting.

17

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12.

13



## Number

Sext age

Date

17-2-7

Length tail claw

Length

Claw tail

Wing

Tail

Cul.

Tarsal

Tibia

Hind tarsal claw

Tibia

Fore tarsal

Tarsus

Middle tarsal

Claw

Middle claw

Hind claw

Fore claw

Claw

Cut claw

Tarsal

Tarsus

Claw

19

May 8, 1867

Cynomys columbianus ♀ juv. Total length 225; Head & body  
175. Lg. of nose to occiput 55.

Larus. - A Gull was seen at Mormon Lake  
which was probably the form of Larus delawarensis  
which I have called "alleni" in my. It was on the  
lake this day we arrived (May 28) but left before  
we attempted to secure a specimen.

20



Number	Sex and Age	Date	Name	Length	Claw expanse	Wing	Tail	Culmen	Nov. inc.	Tarsus	Claw	Cere	Blister claw	Outer claw	Diameter of eye
4483 ♂ juv.	juv.	June 7	Picus v. columbianus	159	236	175	224	231	320	Young					
4484 ♂ ad.	♂ ad.	June 7	Picus v. columbianus	159	236	175	224	231	320	Young					
4485 ♀ ad.	juv.	June 7	Picoides arcticus	159	236	175	224	231	320	Young					
5489															
4486 ♂ ad.	juv. + Picus v. harrisi														
5490															
4487 ♂ ad.	juv. + Picus v. harrisi														
5486															
4488 ♀ ad.	juv.	June 7	Picus v. harrisi	159	236	175	224	231	320	Young					
5487															
4489 ♀ ad.	juv.	June 7	Picus v. harrisi	159	236	175	224	231	320	Young					
5488															
4490 ♀ ad.	juv.	June 7	Picus v. harrisi	159	236	175	224	231	320	Young					
5491 ♂ ad.	juv. & Picoides arcticus														
5492 ♂ ad.	juv. 8	June 8	Picoides arcticus	159	236	175	224	231	320	Young					
5493 ♂ ad.	juv. 8	June 8	Pontopus borealis	159	236	175	224	231	320	Young					
5494 ♂ ad.	juv. 8	June 8	Picoides columbianus	159	236	175	224	231	320	Young					
5495 ♂ ad.	juv. 8	June 8	Picoides columbianus	159	236	175	224	231	320	Young					
5496 ♂ ad.	juv. 8	June 8	Poncous borealis	159	236	175	224	231	320	Young					
5497															
4497 ♂ ad. f.ad.	juv. 11	Spizella socialis ariz.		159	236	175	224	231	320	Young					
4498 ♂ ad. f.ad.	juv. 11	Turdus n. auduboni		159	236	175	224	231	320	Young					
4499 ♂ ad.	juv. 12	Nyctale acadica		159	236	175	224	231	320	Young					
4500 ♂ ad.	juv. 12	Contopus borealis		159	236	175	224	231	320	Young					
4501 ♂ ad.	juv. 12	Contopus borealis		159	236	175	224	231	320	Young					
4502 ♂ ad.	juv. 12	Picus villosus harrisi		159	236	175	224	231	320	Young					
4503 ♂ ad.	juv. 12	Picoides columbianus		159	236	175	224	231	320	Young					
4504 ♂ ad.	juv. 12	Picoides borealis calurus		159	236	175	224	231	320	Young					
4505 ♂ ad.	juv. 13	Picoides columbianus		159	236	175	224	231	320	Young					
4506 ♂ ad.	juv. 13	Picoides borealis calurus		159	236	175	224	231	320	Young					
4507 ♂ ad.	juv. 14	Picus villosus harrisi		159	236	175	224	231	320	Young					
4508 ♂ ad.	juv. 14	Picoides columbianus		159	236	175	224	231	320	Young					
4509 ♂ ad.	juv. 14	Contopus borealis		159	236	175	224	231	320	Young					
4510 ♂ ad.	juv. 14	Picus villosus harrisi		159	236	175	224	231	320	Young					
4511 ♂ ad.	juv. 14	Contopus borealis		159	236	175	224	231	320	Young					
4512 ♂ ad.	juv. 16	Lerthia familiaris		159	236	175	224	231	320	Young					
4513 ♂ ad.	juv. 17	Spinangula hyperborea		159	236	175	224	231	320	Young					
4514 ♂ ad.	juv. 17	Sialia arctica		159	236	175	224	231	320	Young					
4515 ♂ ad.	juv. 17	Sialia mexicana		159	236	175	224	231	320	Young					
4516 ♂ ad.	juv. 17	Sialia sordida platycercus		159	236	175	224	231	320	Young					

Number	Date	Name	Length	Width	Bill	Tarsus	Claws & claws	Sex and age
5528								
5517 ♀ ad.	June 17	<i>Spirilla s. arizonae</i>	144	243	173	39.5	12	
5529								
5518 ♂ ad.	June 18	<i>Picoides arcticus</i>	142	242	28.7	39.5	12	Alb. cap. ans.
5536								
5519 ♂ ad.	June 19	<i>Loxia c. mexicana</i>	146	188	73	18.8	7.3	
5537								
5526 ♀ ad.	June 19	<i>Piranga hepatica</i>	146	188	64	18.8	6.4	
5530								
5521 ♀ ad.	June 18	<i>Chondestes v. leucorygi</i>	145	20.5	3.4	10	4.0	
5531								
5522 ♀ ad.	June 18, 23	<i>Tragalinus hoaltema</i>	145	20.5	3.4	10	4.0	
5532								
5523 ♂ ad.	June 18	<i>Peris villosus harrisi</i>	146	20.5	3.4	10	4.0	
5533								
5524 ad.	June 18	<i>Contopus borealis</i>	145	20.5	3.4	10	4.0	
5534								
5525 ♂ ad.	June 18	<i>Empidonax hammondi</i>	145	20.5	3.4	10	4.0	
5535								
5526 ♂ ad.	June 19	<i>Litta ferruginea</i>	145	20.5	3.4	10	4.0	
5536								
5527 ♂ ad.	June 19	<i>Spirilla s. arizonae</i>	145	20.5	3.4	10	4.0	
5537								
5528 ♂ ad.	June 19	<i>Cyanerpes caeruleus</i>	145	20.5	3.4	10	4.0	
5529 ♂ ad.	June 19	<i>Spirilla s. arizonae</i>	145	20.5	3.4	10	4.0	

(Skip to p. 127.  
[See also])

# Mammals in the Vicinity of Flagstaff. (Notes made Dec. 2, 1917)

(Note made June 3, 1887).

Lanis latrans. - Common. I saw one near Flagstaff, and one on the San Francisco mountain slope beyond Hart's Cattle ranch.

*Nephritis mephitisca*. - A dead one seen at the Spring there  
was a dead one on Moron  
was on the mountain  
- from the vicinity of

The place for you to find me might therefore be  
in the office of the Commonwealth Attorney in the  
State and Federal Building, 420 West Lake Street, about three  
blocks west of the Statehouse. You will be able to get  
there by bus or taxi, as it lies on a main street.  
It is necessary for you to have some kind of  
identification with you so as to identify you to the  
officers.

Dear [unclear]  
I am continuing our conversation  
you have not long been writing to me  
again and I hope you will  
be the author of many more. Give me  
Canyon news.

I plan to go to the  
time & things all in with the government  
privately & without public talk the  
way.

I am perfectly willing to release another  
of the same money.

piece with me. I am in no better  
position than you. I have been  
told that the new  
colonial grant from the  
Government has been  
at Pisa.

sun. Here at the spring on the mountain slope above Hart's ranch a small species is abundant. None shot.

Moles of some sort have been noted all the way from Mehren's on the summit of the vapor pass to this camp. They have not been seen but their raised passageways are observed in damp woods where the soil is loose.

Wreay on cinero-argentatus is said to occur commonly here.

18th Feb 1855.

W.M.C.

Albion, N.Y.

I have been writing you to you since the  
1st ult. I am now free at night from our three  
again with the town when we are in the forenoon  
- get up dressing & have to think about them  
in the forenoon. But the day after now  
has no longer, as it was much & every thing  
is changed. The place where have - we are in  
focus nothing remains but a memory &  
nothing.

I have now continue to do in your name & that  
you have not forgotten the history of Wm. We  
spoke some time ago. I have not done so  
as the mind of Petty always uses heredity  
Company commandant told him.

I often wish that I could talk with the like  
time & therefore face her with the good feelings in  
found when I was with her. but this can  
never be.

I am perfectly willing to retire on her  
part if I could only manage it.

Please write me a line & tell me how  
little leaves from aged lessons. I  
do not forget some things which I learned  
at Wmde. Miserable home

R.H.C.

Mammals in the Vicinity of Flagstaff.  
(Note made June 3, 1887).

Felis latrans. - Common. I saw one near Flagstaff and one on the San Francisco mountain slope beyond Hart's cattle ranch.

Nephelus mephitica. - A dead one seen at the Spring three miles N.W. of Flagstaff. I also saw a dead one on Monon Lake. M. interrupta also occurs on the mountain. A specimen was brought me from the vicinity of Flagstaff.

Yellow-haired Porcupine. - A specimen was brought me from the summit of the Mogollons near Mr. Melvrens' cattle ranch by Mr. "Bell" Clift. George Pemberton told me he had never seen a live one there during a residence of several years, but had seen several dead ones and it was a common thing for dogs to come in with porcupine quills sticking in their mouths. In our camp three miles north of Harts Ranch on the San Francisco slope, I notice spruce branches <sup>with bark</sup> gnawed off and a few of the trunks. I do not know whether this is the work of Porcupines or not. I have advices of the presence of Porcupines in the Mogollon range in the vicinity of Pine Creek Settlement. Persons who have travelled through the Valley of the Colorado River inform me that they are there quite common in Cottonwood timber. This agrees with the accounts of the earliest scientific explorers of the region.

Bats. A large species was observed flying about our camp  $\frac{3}{4}$  mile east of Flagstaff during the daytime. In our camp at the Spring 3 miles N.W. of Flag none were seen. Here at the spring on the mountain slope above Hart's ranch a small species is abundant. None shot.

Moles of some sort have been noted all the way from Melvrens' on the summit of the vapor pass to this camp. They have not been seen but their raised passageways are observed in damp woods where the soil is loose.

Urocyon cinereoargentatus is said to occur commonly here.

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Heteromys talpoides mazatlanus. - Its mounds noted as far up the mountain as this camp - a mile above it, in fact. Lepus texianus. - Jack-rabbit tracks were noted to-day between the Spring 3 m. N.W. of Flag. and this camp. One was seen near Flagstaff, one near Mormon Lake one shot at McIrenos and others seen there. Stockmen say it is very unusual to see them on the mountain. Scarcity of grass, unprecedented, may have driven them to migrate upward in search of food. The one killed at McIrenos was a fine typical example. We ate it & found it good and fat. Some stock-men told me they had never before seen a Jack in the mountains above the line of juniper trees.

Canis macrostis montanus. - Tracks about our camp here. Do not know how high they range on the mountain, but I expect to reach the peak to-morrow myself.

Dilectocare americana. - Five were passed near the headquarters of the Arizona Cattle Company.

Peromyscus maniculatus mexicanus. - None have been seen but they are said to be abundant around Flagstaff. George Pemberton said that he often shot enormous rats in his cabin at McIrenos ranch. He promised to shoot one for me but did not do so.

Tamias quadrivittatus. - Found commonly down McIrenos ranch to very near the upper limit of the pines. We are now encamped on a spruce just where the pine timber ends and fir & spruce & aspen take its place. The uppermost pines, though of same species begin to branch close to the ground. We have not yet seen this chipmunk here. The last one noted was a mile below Hart's ranch.

Tamias lateralis. - Seen as high as we have yet been. The first were found a half mile above Mormon Lake. They are somewhat colonial.

Thomomys grammurus. - Abundant at our camp 3 miles N.W. of Flagstaff. One shot. Its mole runs one of the call of the black-headed Grosbeak, thus louder & more penetrating in structure.

When heard close by a chipmunk "snicker" is heard which is audible at a short distance.

Sciurus aberti. - At camp 3 m. N.W. Flag. I saw some Jays in a pine tree. I walked to the spot & saw a nest; when I had climbed half way up the owner, proving to be this squirrel instead of the Long-crested Jays, passed me coming down on a neighboring trunk. We both stopped as we were about to pass & took a good look at each other. I felt a supreme disgust at my taxidermic results as I looked at the living creature within a few feet of me. The squirrels had better possession of the Jay's unfurnished nest and had built a round nest entirely of clumps of wire grass pulled up by the roots with substance on side. The last specimen ever was nearly

at the Arizona Cattle Company's ranch. I think they bother little birds when breeding as a smart contest between a pair of Red-backed Finches and S. aberti was witnessed near the Mormon Lake.

The Cal. Woodpecker & Abert's Pine Squirrel have unending & vociferous quarrels & feuds over the latter's propensity for pilfering the hordes stored in the pine bark by the busy Woodpecker. They scold, berate & belabor each other soundly.

I think they both know how to cuss. I have seen no Fremont's Squirrels nearer than the fir & spruce clad mountains back of the Mormon Lake or "Dairy".

Cynomys Columbianus. - First noted in the level flats around the Mormon Lake. Hence to the 3-mile Spring north west of Flagstaff colonies were frequently passed, especially in the open plain known as Clark's Valley trough which a Railroad is now being built. Near the Mormon Lake, they were so close to the water-level that they had constructed enormous mounds of considerable height & 20 or more feet in diameter, while those living on a rocky mesa west of the lake had scarcely any mound at all.

One colony near Mormon Lake lived right in the pine forest & I shot some by crevicing up behind the pine trunks. Near Flagstaff (2 m. N.W.) they have large colonies on the steep slopes between pine timber & cultivated fields of barley. They destroy a large quantity of the latter. Corporal Dixon of my party shot three in succession from the saddle with his carbine. We found them game excellent in flavor, for we ate & all praised them as an article of diet for hungry men. Near the Mormon Lake is a colony living in a neck running up between rocky bluffs from the lake. Here I saw them living in holes under rocks at the sides of the cañon and saw them climbing up the rocks or sitting on them like *Spermophilus* barking sharply. They sit straight up and bark as loud as they can until one rides towards them, when they drop down in the depression in their mounds at the entrance to their burrows showing only their head & shoulders. There are commonly several burrows in each mound & it is a common sight to see one spring from one side of the mound to the entrance of another burrow on its opposite side & then disappear.

Commonly they keep on barking as you approach, but gradually with drawn-in view until just the top of their flat heads is left exposed to view at the end of their snout. These are enormous colonies in the open country about Davis Pass East of Pine Tanks. A young one about as large as *T. lateralis* was shot at the entrance to a burrow at Mormon Lake May 31<sup>st</sup>. It sat up straight and acted like an adult.

Putorius. A Weasel was shot June 20, 1886 at the pump supply in Flagstaff with water.

Mountain Sheep never come nearer than S.E. Peaks where they usually range above timber line but a young man who accompanied this survey told me he saw three far below.

Timber line, in a rocky locality, two years ago, a mounted Spec. in Bonner's Store Flagstaff was shot on S. F. Mountain. This spec. was sent to the New Orleans Exposition. Sheep are still found on S. F. Mts., & much more abundantly on the Cañons of the Colorado River 40 miles west.

Mammals & Birds seen on San Francisco Mountain, while in Camp on N.W. Slope at the Spring, from June 3 to June 7, 1887.

Astar striatulatus. - An immature specimen perhaps young of year started from an aspen thicket half-way up to timber line June 7<sup>th</sup>. An adult was seen June 3, about 5 miles below this camp in the pine forest. Another adult was seen in the upper edge of the cedar forest below Stoneman's Lake on May 21<sup>st</sup>. All were too shy to be shot.

Falco mexicanus. - On June 4<sup>th</sup> we ascended San Francisco's highest peaks. This Hawk and the little Hummingbird were the only birds that braved the fierce wind and cold of the summit. Both flew over the summit. Junco dorsalis was breeding on the timber line, and Piceoarius columbianus also ranged in the highest stunted growth of timber. Not far below were left the last of Eupidonax difficilis and Dendroica auduboni and Carus montanus were found in the stronger growth of fir & spruce just below. Of Mammals the Mountain Sheep was the only one ascertained to live above timber line. We found the tracks of two or three sheep on the highest peak - the best land in Arizona. Three Squirrels (Sciurus h. fremonti, T. T. asciata) (~~quadrivittatus~~ and lateralis) range nearly to timber line. The nest of S. fremonti was found in the last growth of tallish spruces before reaching the prostrate forms of the same trees which barely exist in higher altitudes. The range of Thomomys talpoides (umbrinus) is nearly coincident with the above species.

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A quadruped, leaving a ridge of loose earth to mark its course wherever it burrows, like the mole, a sheaf of which it doubtless is, also runs upwards towards the highest forests. Does now are ranging up about 1500 feet above our camp, nearly to the limit of aspen timber. The antelope has not been detected higher than our camp. Two Jack Rabbits have been seen on the mountain. The highest was 500 feet above our camp. Other mammals noted on the level of our camp are Felis concolor, F. domesticus (var.), Canis latrans, C. lupis, Urocyon cinereoargentatus, Thelocyonus canopus, Urocyon horribilis, and Sciurus aberti. This last penetrates the fir and spruce timber only as far as scattered pine trees are found. The highest that we have noted their is in our camp and in the lake basin across the trail from here. A few bats are seen above our camp; none taken. Have not been higher up at night, so do not know how high they range.

Cathartes aura was noted about 5 miles below our camp. Zenaidura carolina - Ranges upward through the aspen forests to the solid growths of fir, spruce, etc. towards timber line.

Talaphorus mexicanus. - Common about our camp.

Ranges up as high as the aspen timber extends. Found here all winter except in exceptionally severe winters. No grouse have been seen by any one on the mountain. Cryptotis massena. - Has not been noted by us but very possibly occurs. We have only seen one pair at H. Momon. Gull. Sligh flushed them & Hawk caught one and carried it off. Sligh shot Hawk twice with rifle but escaped & carried its dainty meat with it. It was Accipiter cooperii.

Springerodes (Actitis) macularia is the only water bird found at this altitude. A female was shot and was doubtless breeding as indicated by condition undulating in a crater lake above the altitude of our camp.

on the summit of one of the mountains clustered about the gigantic S. F. cones. Picus villosostratus barbisi. - Abundant; breeding. Picus pubescens gardneri. - Rare; breeding; breeds incessantly in dead trees.

Sturnus vulgaris thyroideus. - Not rare; breeding.

Colaptes cafer. - Abundant; breeding.

I have not noticed the Three-toed Woodpecker except on the Mogollon Summits at Mehren's. Melanerpes bairdi. - does not appear to range above the altitude of Flagstaff. None seen on the Mts. Phoracanthus henryi. - Common as high as our camp. Buteo virginianus subarcticus. - Several heard above our camp. Tyrannus vociferans. - Ranges up to our camp only. Contopus richardsoni. - Ranges half-way up to timber line. Contopus borealis. - do Both species breed abundantly.

Empidonax difficilis. - Ranges about to timber line. Breeds abundantly on the mountain. It has a song and very pleasant call, as well as a sharp chirp when angry or frightened. Sialia merleina. - Breeds abundantly on this level. Ranges but little above pine timber which ends just above our camp.

Trochilus heliophaeus. - Very abundant, ranges to the very summit; abundant in the highest trees on the timber line.

Hylocichla auduboni. - Abundant; breeds as high as aspen timber extends, but lives chiefly in evergreens, where it builds its nest on horizontal, usually lower, branches. Sings deliciously; especially morning, evening & after showers.

Merula migratoria propinqua. - Breeds commonly. Ranges ~~up to~~ the limit of aspens, but not abundant above the pines.

Trochilus aethon manicata. - Breeds commonly in forest of mixed spruce, fir & aspens. Range half way from our camp to timber line.

Sialia arctica not noted above the altitude of Flapstaff  
but probably occurs higher. We noted the first  
with the first pine timber when ascending the  
mountain & found its nest in the junipers  
in the scattered areas of pines where the  
cedar and pine forests are joined by a  
scarcer growth of junipers. Note. There is quite  
a growth of good-sized oaks <sup>three</sup> miles ~~two~~ this  
side of Flapstaff - the highest I have noted them.  
Vireo californicus ranges up through the aspen belt & breeds  
Catherina familiaris. do do do  
Sitta c. aculeata. Not noted above the pines & our camp.

Sitta pygmaea do do  
Parus montanus. Ranges well up toward the highest forest from  
Pterocarpus albidus var? is common up to the base of  
the tree cone & the country above is obviously unsuited  
to its wants.

Poecile gramineus confusus has a range coincident with <sup>part of</sup>  
Spizella socialis arizonae. Only a very few reach the highest  
pines at our camp.

Corvus americanus. Breeds considerably higher than our  
camp & ranges nearly to timber line.

Picumnus columbianus. - Ranges down to the upper  
pine forests with its young & a family of young were  
seen with parents June 4 in the highest scrubbed  
forest growth. Resembles a woodpecker in appearance  
& fond of dead trees. Very noisy. Not sing.

Cyanocitta macroura. Not seen above aspens.

Scoteanax r. cyanocephalus. - Breeding at Hart's  
ranch above pine timber or on the uppermost living.

Zonotrichia. - A species which I did not identify as  
to whether Z. leucophrys or Z. querula was found  
in a swampy lot at Hart's ranch & was paired &  
probably breeding.

Empidonax pusillus. - One in swampy bushes near  
Hart's Ranch.

Tachycineta thalassina is the only Swallow seen  
as high as this. It ranges little above the pines

Dendroica auduboni - is the only bird of the genus  
thus far seen on the mountain it ranges beyond  
the aspen forest belt. Breeds abundantly and sings  
excellently.

Micropterus melanoleucus. - A single one noted on  
level of our camp at upper limit of pines  
Piranga ludoviciana. - Breeds abundantly and  
ranges nearly to the upper limit of the cedar belt.

Junco dorsalis. - The most abundant bird.  
Breeds from the lower limit of pine forest  
to the very highest timber. Sings very sweetly.

Vireo g. swainsoni. - Very abundant nearly through  
the aspen belt; breeds; sings incessantly & sweetly.  
Vireo plumbeus has not been detected quite as high as  
our camp or in other words to the uppermost pine forest.  
The Blk-headed Grosbeak & Green-tailed Towhee which  
were abundant on the mountains of the Mogollons  
have not been detected here yet.

Sturnella neglecta. - Breeds a little higher than  
Flapstaff above (1 mile) the 3-mile spruce.

Corvus corax carolinus. - Not noted high in Mt. Ariz.  
on this trip & Percorvus, which occurs in the  
Mts. Ariz. I have never seen in Arizona.

Maximus Jay is common in pines about  
Flapstaff & noted down in the cedars May 20<sup>th</sup>.  
A Beautiful Hornet. Tad was captured on  
the north side of the mountain June 7<sup>th</sup>. No serpents  
or lizards seen; the latter are abundant ten  
miles from here towards Flapstaff. No Tortoise, toad  
or other reptiles. No Salamanders or Batrachians noted.

Contopus borealis, - Its characteristic cry is "Whip-me-to", given with such vigor and clearness of enunciation that as to be almost startling.

Camp at Flagstaff, Arizona June 2, 1887.  
Jack Rabbit (Lepus texianus). - Scarce  
Canis macrotis } Common.  
Antilocapra americana

Urocyon cinereo-argentatus is common, I am told.

Neotoma fl. mexicana. - Abundant.

Thomomys talp. umbrinus. - Common.

Tamias lateralis. - Common.

Tamias asiaticus quadrivittatus.

Sciurus aberti. - Very abundant.

Spermophilus grammurus. - Common.

Cynomys columbianus. - A good-sized colony; feeding on an adjacent crop of green wheat, which they invaded and ruined. Little; very fat. Ate one; very good!

Corporal Dixon shot 3 in succession from his horse, with the Govt Carbine.

Large Brown Rats (probably house rats). - Several feeding about our first camp in the daytime; none seen about our second camp at Flagstaff.

#### Birds seen at Flagstaff: -

Chipping, Red-backed Juncos, Violet-green Swallows, Purple Martins, Western Nighthawk, St. Horned Owl, Max. Nuthacker (Cyan. cyanoccephalus), Cyanocitta Stelleri macrolophia, Corvus americanus, Sialia mexicana, S. arctica, Merula migratoria propinqua (Found nest on drooping branch of pine, 12 feet above the ground, containing 4 young. Nest like Eastern Robin).

House Wrens, inhabiting almost every prostrate pine-tree or rock pile in this vicinity.

Salpinctes obsoletus

Colaptes cafer

Dendroica gracilis

Dendroica auduboni.

Buteo borealis calurus.

Falco sparverius.

Tyrannus vociferans. - Attacks Crows & Red-tails & drives them off.

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Pontopus borealis. - Note like "Whip-me-to!"

Pontopus richardsoni

Trochocercus cyanocephalus.

[Saw Trochocercus in Clark's Valley, line of Mineral Belt R.R., bet. Playstaff & Mormon Lake.]

Sturnella neglecta. - Singing.

Vireo plumbeus. - Loud song.

Piranga ludoviciana } Singing.  
" hepatica

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- 202 May  
Seen ~~from~~<sup>on</sup> 20<sup>th</sup>, 1887, en route from Ft.  
Lander to Schoolhouse on Beaver Creek.
- 1 *Lophodytes cucullatus*
  - 2 *Gallinula gallinata*
  - 3 *Ardea herodias*
  - 4 " *iridescens*
  - 5 *Nycticorax naevius*
  - 6 *Himantopus vociferous*
  - 7 *Actitis macularia*
  - 8 *Fulica americana*
  - 9 *Cathartes aura*.
  - 10 *Buteo borealis calurus*
  - 11 *Astur striatulatus*
  - 12 *Aeg. iter cooperi*
  - 13 *Falco sparverius*
  - 14 *Falco griseus anatum*
  - 15 *Falco mexicanus*
  - 16 *Urubitinga australis*
  - 17 *Buteo virg. subarcticus*
  - 18 *Zenaidura macroura*
  - 19 *Callepepla gambeli*
  - 20 *Iochilus alexandri*
  
  - 21
  - 22 *Chordeiles texensis*
  - 23 *Phalaenoptilus nuttalli*
  - 24 *Geococcyx californianus*
  - 25 *Coccyzus americanus*
  - 26 *Colaptes cafer*
  - 27 *Melanerpes form. leucide*
  - 28 *Picus scalaris*
  - 29 *Iramus vermiculus*
  - 30 " *vociferans*
  - 31 *Sayornis saya*
  - 32 " *ugricinus*
  - 33 *Contopus richardsoni*
  - 34 *Empidonax difficilis*
  - 35 " *hammondi*
  - 36 " *aberrans*
  - 37 " *pusillus*
  - 38 *Myiochanes emarginata*

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- 39 *Corvus corax sinuatus*
- 40 " *quercina*
- 41 *Gymnoderma capitocephalum*
- 42 " *noeotti stellifer macrostomus*
- 43 *Phalaenoptilus woodhousei*.
- 44 *Micropterus melanoleucus*
- 45 *Otocoris alpestris pallida* Townsend
- 46 *Molothrus ater obscurus*
- 47 *Xanthocephalus xanthocephalus*
- 48 *Sturnella sinensis neglecta*
- 49 *Scolecophaps oryzivorus*
- 50 *Icterus cucullatus nelsoni*
- 51 " *b. flocki*.
- 52 *Carpodacus frontalis*

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*Aegialitis noctifera*. - Several on the little stream at Woods' Ranch, where they breed in 1880.

*Melanerpes formicivorus acutatus*. —

The top of the head in all young birds is red, there being no black band in females. Three of Mr. W. E. D. Scott's specimens, and one in my collection, have the whole top of the head red, all being labelled females. The quills, neck and breast are slightly brownish, and the under markings not as sharply defined as in adults, showing a blurred appearance.

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2 pp. +  $4\frac{1}{2}$  lines on type-writer = 1 Auk Page small type.

$\frac{1}{18}$  on type writer = 1 page of Auk large type (ie 1 pp. 9 lines)

To Go from Flagstaff to the Grand Canon.

Follow the wagon-road east along the Railroad about 3 miles. Then take the left hand road and follow the eastern base of the mountains to a corral (about 20 miles from Flagstaff). Then turn north about 2 miles to cross roads. Thence N.W. 12 miles to Hull's ranch (a mountain stream up on <sup>side</sup> of the mountain). Then follow main road N.W. 28 miles to Red Horse Tanks, owned by Mose Casner. Then 12 miles to John Hance's, on the canon.

From Red Horse Tanks (Casner's) there is a trail to Cataract Creek.

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N O T E. — The above is a complete list of the Birds seen on  
the San Francisco trip, *from the time of leaving Fort  
Yerba until my return.*

Picoides americanus dorsalis. Alpine Three-toed Wood-pecker. — Breeds commonly throughout the pine belt, seldom ascending far into the spruce woods of the highest peaks.

Notes on birds : Whipple List:

- No Taleporia columbarius. Common; resident.
- Yes. Geococcyx californianus
- No "Sphyrapicus nuchalis." "Permanent resident. Abundant." <sup>Don't believe it!</sup>
- Yes Asyndesmus torquatus "Common; resident."
- Yes Selasphorus rufus. "Very abundant at Fort Whipple." "Summer resident, breeding abundantly."
- Yes Paliotila caerulea. "Summer resident."
- Dendroica nigrescens, "Common"; <sup>at</sup> <sup>few</sup> <sup>breed.</sup> <sup>[Tropicana]</sup>
- Dendroica aestiva, "Summer resident." "Abundant."
- ✓ Gothartes trichas. "Summer resident; rare."
- ✓ Hemimelophaga leucophrys. deser. breeding at Whipple.
- ✓ Mipodictes pusillus. C. nov. "Summer resident."
- ✓ Otocoris leucomelas. "Common; summer resident."
- ✓ Stilgidopteryx sericeus. "Summer resident, breeding abundantly."
- ✓ Thryothorus bewickii "The most abundant and characteristic wren at Whipple."
- ✓ Zosterops morio. "Emphatically an evergreen oak sp." eschewing the pines, etc.
- ✓ Lanius wallacei. "Permanent resident; common" etc.
- ✓ Psaltriparus plumbeus Baird. "Resident & very abundant at all <sup>ages</sup> stages."
- ✓ Parpodacus Cassini "Common; resident."
- ✓ Syrizella atrigularis rare summer resident at Whipple.
- ✓ Molothrus aeneus "Very abundant summer resident."
- Agelaius phoeniceus. "Common; resident."

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 5.80 \\
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 \quad
 \begin{array}{r}
 25.4 \\
 46 \\
 \hline
 1524 \\
 1016 \\
 \hline
 11.684
 \end{array}$$

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Falco peregrinus anatum.

Falco columbarius. Baker's Butte, early in Oct., 1884 (no. 3365).

Falco sparverius. 4 spec. in Oct. + Nov., 1884.

in pine stump, June 12, 1887, S. F. Mtn.

Vireo acadica. No. 5502 to 5505 (♀ ad, 3 ♀g. + 1 ♂g) from a nest

Bubo virginianus subarcticus. Pine Sps. Nov. 1884.

Speotyto?

♂ ad. Pine Creek, March 29, 1886; 5578 ♂ ad. Baker's Butte, July 26, 1887. Borglantz

Glaucidium gnoma. - 2664 ♂ ad. Whipple March 21, 1884; 4698,

Dryobates villosus, <sup>halzeopus</sup> ~~harrisii~~. - [Probably harrisii will

have to have specific rank, and the Arizona form will  
1884, Ah-Sukai village no. 5, 1884] Pine Sps. etc., Nov. 11 to 25, 1884]

be a subspecies of harrisii. Whipple March, 1884; Mogollon Oct.,  
San F. Mtns. May + June 1887. Baker's Butte, July + Aug., 1887, etc. etc.

Dryobates pubescens <sup>♂ ad.</sup> 5490 ♂ ad. S. F. Mtn., June 7, 1887.

Trochocercus <sup>♂ ad.</sup> 5491 to 94 (♂ ad. & young) S. F. Mtn. June 8, 1887; no. 5629 ♂ ad. etc.

Trochocercus americanus dorsalis. - 5406 ♀ ad. bt. Stoneman's Lake

Flagstaff A. Y. June 18, 1887; 5560 ♂ ad. July 20, 1887, 5579 ♂ juv. + 5603 ♂ ad. Baker's Butte,  
July 29, 1887; 5587 ♂ ad. July 1887.

Sturnirapicus thyroideus. 3377. Mogollon Oct. 84; 3626 Pine Sps.

1884, 17, 1884; 3700 ♂ ad. Oak Cr. Jan 14, 1885; 5478 ♂ ad. + 5486 ♀ ad. S. F. Mtn., June 6, 1887.

5552 + 5559 young, July 14 + 18, 1887. Baker's Butte. 5574 ♂ ad. Baker's Butte July 23,

Melanerpes formicivorus barbatus. - Whipple resident.

Mogollon resident. 5406 Stoneman's Lake. Abundant below Flagstaff + Baker's B.

Melanerpes formicivorus. - Mogollon, Pine Sps. Whipple, Oct + Nov, 1884.

Hawes Spring Mar. 26, 1886. Tucson April 8, 1885. Verde Cr. 29, 1886. Whipple Nov. 12, 1887. Verde

Catalina Crater.

Eggs at Daniels Tanks July 8, 1886. Eggs at Woods, May 27, 1886. Flagstaff.

Halaeomopterus nuttalli nitidus. Whipple Apr. 1884.

1887. Decidedly abund. Baker's Butte in July + Aug.

Chordeiles virginianus henryi. Eggs at Flagstaff June 18,

Micropterus melanoleucus.

No. 5587 ♂ ad. July 28, 1887, at Baker's Butte.

Trochylus polytmus. Lacking Asp. May 26. S. F. Mtn. June, 1887.

5534 June 18, 1887, near Flagstaff.

Tyrannus vociferans. 5409 ♂ ad. Stoneman's Lake, May 23, 1887;

Baker's Butte, August 2, 1887.

Minuculus luteiventris olivaceus. 5599 ♂ ad with ♀ ad.

Sayornis Sayi.

♂ ad. (No. 5457); June 3 near S. F. Peak (5466); 5560 ♂ ad. S. F. Peak (4) + Flagstaff (June 8)

Contopus borealis. <sup>coquereli</sup> ab. <sup>aberrans</sup> Butte in July 1887.

May 28 (No. 5444); near Flagstaff, July 24, Aug. 10 + Aug. 28, 1887.

Contopus richardsonii, 5471 San F. Mtn. June 3; Baker's Butte

Aug. 27, 1887.

Empidonax difficilis, 5468 S. F. Mtn. June 3, 1887; 5581,

Aug. 27, 1887.

Otocoris alpestris. 5464 ♂ ad.

near S. F. Peak, June 3, 1887. Extra long claw of hallux.

- 3
- Cyanocitta stelleri macrolopha*. - Passes thro' pine belt. 9.
- Aphelocoma woodhousei*. - Only to the lower pines.
- Aphelocoma siebarii arizonae*. - do South Basin.
- Perisoreus canadensis capitalis*, White Mtns.
- Corvus corax sinuatus*, everywhere.
- S. Foothills & crest of Mogollons, breeding. 5463 ad. ♂, N. Mtn June 3, 1887.
- Corvus americanus*. - Abundant around the base of the breeding plentifully at S. F. Mtns 1887, I found it at timber line. June, young all over.
- Accipiter Columbianus*? - Crest of Mogollons in Oct. No. 3374 ad. Oct., 1884. Mogollon crest. A dozen specimens. S. F. Mtn June 6 to 14, 1887.
- Cyanocitta cyanoptera*. - Pine belt in summer 5463 ad. Flagstaff May, 1887. 5544 + 5545 Baker's Butte July 7, 1887.
- Motacilla alter (obscurus?)* with several nests + 1887 at Mormon Lake, May 29, 1887.
- Xanthocephalus Xanthocephalus*. 5447 ad. at Woods' Mormon Lake, no var of S. F. Mtns N.W. fr. Flagstaff May + June.
- Collocalia cyanophaea*. - Breeding plentifully at altitude.
- Sturnella magna neglecta*. - Open grassy places at any altitude.
- Locustella vespertinaria*. - Lower border affines, esp.
- Carpodacus mexicanus frontalis*.
- Carpodacus cassini*.
- Pine Spgs. Nov. 1884. Pine Tanks, lower edge of pine belt June 19, 1887. Baker's Butte 1887.
- Zosterops curvirostra* Stricklandi, Mogollon crest Oct. 1884.
- Abundant in July + August. very common at Flagstaff end of May 1887.
- Zosterops australis*. 4169 + juv. Oak Creek Aug. 14, 1885.
- Spinus psaltria* (typical). 5531 ad. Flagstaff, June 18, 1887.
- Spinus pinus*. Mogollons July 2, 1886. etc.
- (No. 5467)
- Loxia leucoptera cornifrons*. - Base S. F. Mtn. June 3, 1887.

- Chondestes grammacus strigatus*. Common in the pine belt of San F. sp. No. 2959. *B. intermedius* (possibly *leucophrys*) ? ad. Verde May 30, 1884 suspe.
- Zonotrichia leucophrys*? or *polita* media? June 3, 1887. base, (B. leucophrys was common in Verde Valley May 11, 1887. *polita* media shot same day.)
- Suzella socialis arizonae*. 5500 ft. Peak June 11, 1887. 5528 + 58 birds S. F. + near Flagstaff June 17 + 19, 1887.
- Junco cinereus dorsalis*. Typical dorsalis breeding very abundantly in Mogollon at Quaking Asp + Mormon Mtn + S. F. Mtn. May + June 1887. Baker's Butte in July.
- Junco caniceps*. - 2762 ad. Apr. 19 + 2770 ad. Apr. 22, 1884. Whipple R.R.
- Clueca ruficeps bairdii*. 5628 South Basin (Weber Canon) Aug. 10.

Aug. 10, breeding, Whipple.

Pipilo maculatus maculatus Aug. 10, breeding. Whipple Mts.  
Canyon Weber Cr., Yavapai Basin.

Pipilo chlorurus. S. F. Peak above our highest camp, at head of piping  
Quaking Asp., Mormon Nut, etc. Weber Creek, Baker's Butte

Habia melanocephala. Abundant among the oaks at

Woods's & Flagstaff; Whipple; Mogollons. (26.5468)  
*Mangia undoviciana*. - S. F. Peak. June 3 Bakers Butte July & Aug.  
Mogollons. Flagstaff. Mud Tanks. Pine Tanks. Woods's & Flagstaff  
*Mangia hepatica*. - Through the pine base of S. F. Mtn. Crest of  
Strawberry. Laramie's Lake. Monroe Lake. Flagstaff. Bakers Butte Weber Co.  
Rocky Mts. Subsp. var 2 Western in Brit. Daniel's Tanks to  
No. 6353 - Beaver Cr. May 17, 1868. Whipple Bls.

raging down to Bear Cr. & the Verde River.  
Tachycineta thalassina. Above Mt. Agassiz higher land, in Ariz.  
Stoneman's Lake - Camp at N. base of S. Mts. (breeding). West. No. 5474.  
Vireo gilvus (Swanson &.) - Bear Cr. July 4, 1886. Quaking Asp.  
S.-T. Mts + crest of Mogollons. (4905, 5459, 5472, 5592).  
Vireo solitarius plumbeus - Lower border of pines to base of  
Dendroica alivacea. 5594.2 ad. Aug. 2, 1887. Baker's Cutte. pines  
Dendroica auduboni - S.-T. Plate. + crest of Mogollons down to base  
May 28 2d year. Strawberry Cr. July 3 - 2 sp. lowest pines on road to Stoneman's Lake. At  
Dendroica gracilis - 5694.1 ad. Aug. 2, 1887. Baker's Cutte  
May 28 - Clark's Valley (camp) breeding May 31, 1887. pine 1 m. + high up.  
May 26, 1888 two males at Woods's ranch. A bird of the pines.

Setophaga picta. - Weber Cr. Aug 10, 11, 1887 3 specimens.

Cardellina rubrifrons 4903 ♀ ad nest + 4 eggs. June 19, 1886  
Parus polyglottos. - Found as high as the lowest pines.  
Sturnus obsoletus, 8460 ♂. May 31, 1887, Clark's Valley.

~~Carex hastata Mexicanus~~ ~~separata~~ punctulatae.  
in Flagstaff June 21, 1886 Basin Butte to Strawberry July 2, 1886 S. F. Peck June. Crest &  
in Mogollon Mts. July 1886  
*Fragaria Virginiana* adonis ~~var.~~ agrestis. - Common bet. Woods,  
S. F. Mts. - common. *montana*  
*Ceratodon purpureus* ~~mexicanus~~ - Quaking Asp. May. -  
pine tree.

Sitta carolinensis aculeata. Common resident in the  
No. 5432 Ad.

Sitta canadensis. - Breeds during last week May 26, 1887, in  
Sitta pygmaea. - Abundant resident through the pine belt.  
~~Sitta wellwitschii~~ <sup>Bonelli's Titmouse</sup> an asper ad Spring N. tide S. E. Peak early in June, 1887.  
Tarsio gambeli. Abundant resident of pine belt. Found its nest in

Psaltriparus plumbeus <sup>♂</sup>  
Mtns + Baking Butte, near latter May 26, at 2 A.M. (Ponent No. 5434)

Regulus calendula a - spruce nester. Breeding at smoky mts., etc.  
Turdus ustulatus. - 5442 ♂ ad May 28, 1887. Lacking Ash.

Sorex arcticus.  
Breeds on S. F. mts & Bailey's Butte in Spruce timber - common May to Aug. 1887.  
Sorex aonlaschkae auduboni May 26, Duckay Asp building  
nest. Found June 3, 1887.

merula migratoria pratincola Nest 3 m. W. Flaptoff June 3, 1887.  
Lanius ludovicianus Sialia mexicana and Sialic arctica

*Buteo swainsoni* - breeds sparingly in the mountains, where it occasionally occurs in open valleys at high altitude. Several large flocks have been seen near Bakers Butte; and *Cathartes aura*. - Seen soaring around San Francisco peaks and the highest back-fores of the Mogollon range; but it generally breeds below the pine timber.

*Buteo borealis calurus*. - Breeds commonly here - out of the pine belt of pine timber, as well as on the lower mesas, and in the <sup>deck</sup> valleys and canons of Arizona.

*Tributaria anthracina*. - This magnificent hawk ascends trout streams to the altitude of 7,000 feet, at which level I have no doubt it sometimes breeds.

*Favila chrysoptera*. - A young one, ~~was~~ recently taken from a nest in a pine-tree in the San Francisco. <sup>incapacitated</sup> Found was seen by our party.

*Haliaeetus leucocephalus*. - I have observed Bald Eagles have breed for many years, in a pine-tree near Stoneman's Lake; altitude 6,3000 feet. Possibly this represents the ~~lowest~~ <sup>indefiniteness</sup> most southern locality at which this species breeds.

*Falco sparverius aratum*. - Resident at all altitudes, Resident at all altitudes, breeding on all the forest in the mountains and in the low valleys & canons of Arizona. I bred regularly in the cliffs about Fort Verde, at the altitude of 4,000, where I took several ~~one~~ young. I found it breeding regularly in the cliffs about Fort Verde, at the altitude of 3,400 feet, and took numerous ~~in~~ its nests at various times. <sup>where</sup> and a specimen shot at the city of Tucson, must have

Species to be treated in the body of the list:-

- 1 Golymbus occipicollis californicus. American Eared Grebe.
- 2 Merganetta americanus. American Merganser.
- 3 Anas boschas. Mallard.
- 4 Anas strepera. Gadwall.
- 5 Anas americana. Gadwall.
- 6 Anas discors. Blue-winged Teal.
- 7 Anas cyanoptera. Cinnamon Teal.
- 8 Dafila acuta. Pintail.
- 9 Shatula clypeata. Shoveller.
- 10 Trochilus rubrida. Ruddy Duck.
- 11 Crotophaga quazaua. White-faced Grouse.
- 12 Potamus leucocephalus. American Bittern.
- 13 Nycticorax nycticorax naevius. Black-crowned Night Heron.
- 14 Grus mexicana. Sandhill Crane.
- 15 Torquata carolina. Sora.
- 16 Fulica americana. American Coot.
- 17 Actitis macularia. Spotted Sandpiper.
- 18 Egialitis vocifera. Killdeer.
- 19 Centrocercus montezumae. Mallee Partridge.
- 20 Centrocercus ocellatus. Dusky Grouse.
- 21 Meleagris gallopavo mexicana. Mexican Turkey.
- 22 Columba fasciata. Band-tailed Pigeon.
- 23 Zenaidura macroura. Pilourning Dove.
- 24 Cathartes aura. Turkey Vulture.
- 25 Accipiter velox. Sharp-shinned Hawk.
- 26 Accipiter cooperii. Cooper's Hawk.

- 27 Fregata atricapilla. Striated. Western Gull. -  
 28 Buteo borealis calurus. Western Red-tail.  
 29 Aquila chrysaetos. Golden Eagle.  
 30 Buteo swainsoni. Bald Eagle.  
 31 Falco sparverius. Prairie Falcon.  
 32 Falco sparverius rufus. Duck Hawk.  
 33 Falco sparverius. American Sparrow Hawk.  
 34 Nyctale acadica. Saw-whet Owl?  
 35 Bubo virginianus subarcticus. Western Horned Owl.  
 36 Cuculus canorus. Pygmy Owl.  
 37 Dryobates villosus villosus. Cabanis's Nuthatch.  
 38 Dryobates pubescens. Noddy.  
 39 Picoides americanus dorsalis. Alpine Three-toed Noddy.  
 40 Sphyrapicus thyroideus. Williamson's Noddy.  
 41 Picumnus formicivorus virdi. California Noddy-pecker.  
 42 Picumnus longatus. Lewis's Noddy-pecker.  
 43 Colaptes cafer. Red-shafted Flicker.  
 44 Chalcostigma nigrilatum nuttalli. Poor-will.  
 45 Chordeiles virginianus henryi. Western Vighthawk.  
 46 Tachycinetes bicolor. White-throated Swift.  
 47 Brochilus platycercus. Broad-tailed Hummingbird.  
 48 Tyrannus vociferans. Cassin's Kingbird.  
 49 Myiarchus lawrencei olivaceus. Olivaceous Flycatcher.  
 50 Colaptes borealis. Blue-sided Flycatcher.

- 54 Buteo swainsonii. Swainson's Hawk (Fever).
   
 55 Buteo swainsonii difficilis. Western Flycatcher.
   
 56 Buteo swainsonii fusca. Little Flycatcher.
   
 57 Buteo swainsonii albonotata. Desert Horned Hawk.
   
 58 Pycnonotus leucogenys. Long-eared Jay.
   
 59 Pycnonotus leucogenys capito. Rocky Mountain Jay.
   
 60 Corvus corax sinuatus. American Raven.
   
 61 Corvus americanus. American Crow.
   
 62 Picicorvus columbianus. Clarke's Vireo.
   
 63 Cyanocitta cyanophaea. Pison Jay.
   
 64 Trochocercus ater (obscurus?). Cowbird.
   
 65 Turnella magna neglecta. Western Meadowlark.
   
 66 Sturnus cyanocephalus. Brewer's Blackbird.
   
 67 Xanthocephalus xanthocephalus. Yellow-headed Blackbird.
   
 68 Oreothraupis agilis. Evening Grosbeak.
   
 69 Parpodacus cassini. Cassin's Purple Finch.
   
 70 Loxia curvirostra stricklandi. Tucson Crossbill.
   
 71 Leucosticte australis. Brown-capped Linnet.
   
 72 Spinus psaltria. Arkansas Goldfinch.
   
 73 Spinus pinus. Pine Siskin.
   
 74 Pooecetes gramineus couperi. Western Chipping Sparrow.
   
 75 Pionopsittula grammiceps. Strigatus. Western Lark Sparrow.
   
 76 Zonotrichia leucophrys. White-crowned Sparrow.
   
 77 Spizella breweri arizonae. Western Chipping Sparrow.

(4)

- 75 Vireo vicinus dorsalis. Red-backed Vireo.  
76 Pipilo chlorurus. Green-tailed Towhee.  
77 Psarocolius melanocephala. Black-headed Grosbeak.  
78 Pitangaa iudicaria. Louisiana Tanager.  
79 Pitangaa hepatica. Chestnut Tanager.  
80 Querula subis. Purple Tanager.  
81 Zenaidura malassina. Violet-green Swallow.  
82 Vireo gilvus swainsoni. Western Warbling Vireo.  
83 Vireo solitarius plumbeus. Plumbeous Vireo.  
84 Dendroica olivacea. Olive Warbler.  
85 Dendroica auduboni. Audubon's Warbler.  
86 Dendroica graciae. Grace's Warbler.  
87 Selasphorus rufa. <sup>Panama Redstart</sup> Ruby-throated Hummingbird.  
88 Leucippus obsoletus. Rock Wren.  
89 Zoothera aidon aglaea. Western House Wren.  
<sup>Cardellina canadensis</sup> Cardellina familiaris montana. Rocky Mountain Creeper.  
<sup>Cardellina canadensis</sup> Sitta carolinensis aculeata. Slender-billed Nuthatch.  
<sup>Sitta canadensis</sup> Sitta canadensis. Red-breasted Nuthatch.  
<sup>Sitta pygmaea</sup> Sitta pygmaea. Pygmy Nuthatch.  
Parus gambeli. Mountain Chickadee.  
Regulus calendula. Ruby-crowned Kinglet.  
<sup>Turdus</sup> Turdus amoenus schlegelii auduboni. Audubon's Hermit Thrush.  
<sup>Thraupis</sup> Thraupis migratoria propinqua. Western Robin.  
<sup>Scialia</sup> Scialia mexicana. Western Bluebird.  
<sup>Scialia</sup> Scialia arctica. Mountain Bluebird.  
(over)

Look over the following notes: -

- |                                    |                        |                          |
|------------------------------------|------------------------|--------------------------|
| San Carlos Trip                    | - - - - -              | Oct., 1884               |
| Ah-Supai Trip                      | - - - - -              | Nov., 1884               |
| Hunt with Prof. Mason and Daniels  | - - - -                | July, 1886.              |
| Trip to Flagstaff after mother     | - - - - -              | June, 1886               |
| San Francisco Trip                 | - - - - -              | May 20 to June 20, 1887. |
| Camp at Horn Spring, Mogollon Mts. | July & Aug., 1887.     |                          |
| Whipple notes:                     |                        | in 1884 and 1887.        |
| Notes from Coues's Whipple List    | on sheet of legal cap. |                          |

#6. Print p. 4, and the letter pasted onto 127; do everything else,  
including enclosures.

AKP

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